Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 1-800-657-3864 | 651-282-5332 TTY | www.pca.state.mn.us

December 11, 2009

Ms. Pamela Blakley, Chief
Air Permits Section
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Dear Ms. Blakley:

Pursuant to Section 7 of the Endangered Species Act (ESA) (16 U.S.C. Section 1531 et seq.), the U.S. Environmental Protection Agency, Region 5 (EPA) must review the biological information and analysis related to Prevention of Significant Deterioration (PSD) permits in the region to determine what impact there may be to any threatened or endangered species in the area surrounding a proposed or modified facility. This letter provides information on a proposed project at the Mesabi Nugget Delaware, LLC (Mesabi Nugget) facility located in Hoyt Lakes, Minnesota. The proposed project may affect Canada lynx (*Lynx canadensis*) and Gray wolf (*Canis lupus*). The Minnesota Pollution Control Agency (MPCA) and the EPA seek to initiate formal consultation with the U.S. Fish and Wildlife Service (FWS) under the ESA.

Project Description

Mesabi Nugget received required environmental permits to construct an iron nugget production facility in 2005. The facility is under construction and is expected to be substantially complete in November 2009. When complete, the facility will use iron concentrate and other raw materials to produce high quality iron nuggets in a rotary hearth furnace.

The rotary hearth furnace is the main source of air emissions at the facility. A "green ball" dryer and several raw material pulverizers also generate combustion gases. Raw material handling and crushing will generate particulate matter (PM) emissions. Fugitive PM emissions will be generated by truck traffic and wind erosion from material stockpiles.

The Mesabi Nugget facility is located on a portion of the former LTV Steel Mining Company (LTV) site. Iron mining activities occurred at the LTV site from the 1950's until LTV declared bankruptcy in 2001. The Mesabi Nugget property is located on land previously used for mining activity. The facility will use existing roads for raw material delivery and employee traffic. Other facility construction will occur on previously disturbed land.

The proposed project includes a modification to a Best Available Control Technology (BACT) limit for nitrogen oxides (NO_X) emitted from the green ball dryer and an increase in fugitive PM emissions (including PM less than 10 and 2.5 microns in diameter, PM_{10} and $PM_{2.5}$) resulting from raw material trucking operations. The draft permit also contains several facility changes authorized under state minor source permitting rules and, therefore, not subject to review under PSD: installation of an emergency generator, installation of a crusher to process recycled process materials, and changes to raw materials unloading operations.

The proposed changes to the BACT limit on the green ball dryer will affect short-term NO_X emissions. The limit applies to a duct burner that is used during start-up and shut-down operations. The existing annual NO_X limit for the unit will not change in the modified permit.

During initial permitting, Mesabi Nugget expected to bring process raw materials to the site by rail. Due to changes in company ownership, Mesabi Nugget changed their plan and wants to bring in process raw materials by truck. While the current permit allows truck traffic and related fugitive PM emissions, the MPCA determined that the increase in trucking operations required a permit modification.

Action Area

The MPCA provided EPA and FWS a map showing the Mesabi Nugget facility and an area stretching three kilometers out from the facility boundary. The FWS used the map to determine the presence of threatened or endangered species and identify known critical habitat.

List of Species

The FWS identified gray wolf (federally threatened) and Canada lynx (federally threatened) as species that are potentially present in the action area. The action area also contains federally designated critical habitat for these species.

The Minnesota Department of Natural Resources (DNR) and the U.S. Army Corps of Engineers (Corps) are completing an Environmental Impact Statement (EIS) for the proposed Polymet mining project, located a few miles east of the Mesabi Nugget facility. The draft EIS was published for public comment on November 2, 2009, and contains recent literature search and field survey data on threatened species in the area of the project, including gray wolf and Canada lynx. Many of these data are also relevant for the Mesabi Nugget facility. General findings from the Polymet draft EIS are included in this letter. The relevant draft EIS sections are attached.

According to recent field surveys and studies, Canada lynx are present in northeastern Minnesota in general and specifically within 25 miles of the Mesabi Nugget facility. Populations are typically found in boreal forests. Snowshoe hares are the Canada lynx's main prey species.

Only Alaska has more gray wolves than Minnesota. Radio collar and other surveys, conducted as part of other projects, confirmed wolf territory east of the Mesabi Nugget project site. Wolves typically live in forest and brush habitats near their prey: white-tailed deer, moose, beaver, and other small animals. The Minnesota DNR considers the gray wolf population fully recovered in Minnesota.

Factors Affecting Species in the Action Area

Critical Habitat

FWS determined that critical habitat for Canada lynx and gray wolf is present in the action area for the Mesabi Nugget project. As part of their endangered and threatened species program, FWS designates primary constituent elements (PCE) for relevant species. PCE are defined in rule as "physical and biological features that are essential to the conservation of the species."

The FWS identified the following PCE for the Canada lynx:

- Boreal forest landscapes supporting a mosaic of differing successional forest stages and containing:
  - Presence of snowshoe hares and their preferred habitat conditions, including dense understories of young trees or shrubs tall enough to protrude above the snow.
  - Winter snow conditions that are generally deep and fluffy for extended periods of time.
  - Sites for denning having abundant, coarse, woody debris, such as downed trees and root wads.
  - Matrix habitat (i.e., hardwood forest, dry forest, non-forest, or other habitat types that do not support snowshoe hares) that occurs between patches of boreal forest in close juxtaposition (at the scale of a lynx home range) such that lynx are likely to travel through such habitat while accessing patches of boreal forest within a home range.

The FWS has not established PCE for the gray wolf. In general, PCE include space for population growth and normal behavior, nutritional or physiological requirements, shelter, breeding sites, and habitats representing appropriate species distribution.

The proposed permit for Mesabi Nugget will not authorize any changes to the landscape that will negatively affect PCE for Canada lynx or similar criteria for the gray wolf. The permitted facility is located on previously mined land and uses existing roads. The proposed changes to the facility will not expand the physical footprint of the facility or result in habitat loss. The proposed facility changes are not directly interrelated or interconnected with actions at another site (e.g., off-site mine expansion). In short, the proposed permit will not result in the direct destruction of critical habitat for the Canada lynx or the gray wolf or a loss of habitat for their prey.

Direct Species Impacts

The proposed action will increase the likelihood of direct mortality of relevant species and their prey by vehicle collision due to increased truck traffic on an existing road. The facility road stretches 3.2 miles from highway 135 to the project site. Trucks will bring in raw materials to the site and remove waste or other materials from the site. The current permit assumed 112 truck trips per day. The proposed permit change will authorize a total of 252 truck trips per day, an increase of 140 truck trips per day.

The FWS authored a biological opinion on Mittal Steel's East Reserve Project on February 20, 2007. In that opinion, the FWS determined estimates for direct "road kill" mortality for Canada lynx and gray wolf. The estimates were based on studies of wolf-vehicle collisions and other relevant data. These estimates can be applied to the Mesabi Nugget permit modification due to similarities in geographic region, truck activity type, and daily traffic counts.

Using the methods described in the FWS opinion for Mittal, and adjusting for the proposed traffic volume and length of road, the estimated wolf mortality of 0.02 wolf/mile/year would predict 0.02wolves would be killed each year, or one wolf potentially killed every 30 years. The FWS Mittal opinion used similar logic to estimate the number of Canada lynx killed by vehicles, determining that fewer lynx would be killed than wolves. For the Mesabi Nugget project, that would translate into a lynx kill less than once every 30 years.

We conclude that the proposed permit modification may affect and is likely to adversely affect individual Canada lynx and Gray wolves due to impacts from traffic related to the Mesabi Nugget facility.

Air Pollution Effects

EPA, Region V completed a review of potential impacts to endangered or threatened species for a proposed permit at Sappi Cloquet, LLC in Cloquet, Minnesota on October 21, 2009. As part of that analysis, EPA conducted a literature search for information on the effects of criteria air pollutants on gray wolf and its prey species. EPA found no specific information on gray wolf and their sensitivity to relevant air pollutants. EPA relied on the general protectiveness of federal air pollution standards in completing the analysis.

In an August 23, 2007, letter to the U.S. Army Corps of Engineers regarding the Minnesota Stee project, the FWS found no available information on air pollution effects on Canada lynx. The FWS assumed existing air pollution regulations would be protective of the Canada lynx.

Federal National Ambient Air Quality Standards (NAAQS) are set to be protective of human health and the environment. Current federal and state rules contain an annual NO_X standard and short- and long-term PM standards. The proposed Mesabi Nugget permit modification will authorize increases in short-term NO_X emissions and short- and long-term PM emissions, mainly from fugitive dust sources.

As part of the original permitting exercise, Mesabi Nugget analyzed potential NO_X impacts using EPA-approved air quality dispersion models and concluded that cumulative predicted NO_X impacts would comply with the federal NO_X NAAQS. Long-term NO_X emissions are not changing as part of the proposed permit modification, so the NO_X NAAQS compliance demonstration is still applicable.

Mesabi Nugget analyzed potential PM_{10} and $PM_{2.5}$ impacts as part of the current proposed permit modification. The analyses followed relevant state and federal guidance, including nearby sources of air pollution and regional background. The predicted impacts complied with short- and long-term standards for PM_{10} and $PM_{2.5}$.

Conclusion

The Mesabi Nugget facility is located in an area with identified critical habitat for gray wolf and Canada lynx. Recent surveys and studies identified gray wolf and Canada lynx populations in the region. The proposed changes to Mesabi Nugget's air quality permit, specifically the increases in truck traffic is likely to adversely affect individual Canada lynx and Gray wolves. Based on analyses of potential impacts on endangered species for other industrial projects in Minnesota – Polymet, Minnesota Steel, Mittal, Sappi – we also conclude that the potential effects from air pollution will be insignificant.

Sincerely,

Christopher J. Nelson, P.E., Manager
Metallic Mining Sector
Industrial Division

CJN:lao

Attachment 1

Project Area Map